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# Preparing the Ground: Contributions of the Preclinical Years to Medical Education for Care Near the End of Life

ABSTRACT

The preclinical years of medical education have rich potential for preparing medical students to provide optimal end-of-life care. Most of the opportunities and settings for this education already exist in the curricula of most medical schools, although they are underutilized for this purpose. In this report The Working Group on the Pre-clinical Years of the National Consensus Conference on Medical Education for Care Near the End of Life identifies the most promising settings and suggests how they might be used for maximum benefit in end-of-life education. Basic end-of-life care competencies are in five domains: (1) psychological, social, cultural, and spiritual issues; (2) interpersonal and communication skills; (3) pain and symptom management; (4) ethical issues; and (5) self-knowledge and self-reflection. A committed group should oversee educational activities related to end-of-life care at each medical school. This group would identify and facilitate teaching opportunities in the preclinical curriculum, basic science courses, problem-based learning seminars, courses in interviewing and doctor–patient relationship, and introduction to clinical medicine; courses in ethics, humanities, and the medical–behavioral sciences; clinical skills courses; and longitudinal experiences with patients. The group would also assess the potential impact of the hidden curriculum.

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Academic medicine and many professional organizations are at last responding significantly to the public's demand for improved end-of-life care.[1–5] As part of this trend, a National Consensus Conference on Medical Education for Care Near the End of Life was held in Washington, D.C., May 16–17, 1997, sponsored by the Open Society Institute's Project on Death in America and The Robert Wood Johnson Foundation. The conference brought together leaders in palliative medicine, representatives of clinical societies across the entire spectrum of medicine, administrators, educators, humanities scholars, and policymakers. During the conference, several working groups analyzed the opportunities for and barriers to improving medical education for end-of-life care across all sites, phases, and contexts of medical education. These groups focused on the preclinical years, primary care/ambulatory care, general medicine and surgery units in acute care hospitals, pediatrics, emergency medicine, intensive care, long-term institutional care, and home care/hospice care.

The conference posed five questions to each working group:

1. How do death and dying manifest themselves in your setting?
2. What are the tasks of end-of-life care in your setting?
3. What are the major opportunities and barriers to learning about end-of-life care?
4. What can be done to improve teaching about end-of-life care in your setting?
5. What currently available and new resources are needed to facilitate change?

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This report answers those questions with respect to the preclinical years of medical education. The first two years of medical school deserve particular attention because it is during these years that students develop their basic knowledge, skills, and attitudes and begin to form their professional identities. During these years, their preparation for excellence in end-of-life care can be either enhanced or undermined.

The report identifies several competencies that are crucial for care near the end of life and indicates how they can be enhanced in the preclinical years. We concentrate first on the formal curriculum of basic science knowledge underlying medical diagnosis and therapeutics, and the psychosocial and ethical/humanistic knowledge and skills needed for effective and compassionate care. We then assess the impact of the "informal" or "hidden" curriculum. From the first day of their medical education, students are immersed in the general culture and environment of medical school, which constitutes a hidden curriculum that is pervasive throughout medical training and influences students' attitudes toward medicine, medical education, and certain types of patients, including patients who are dying.[6,7]

*The foundations for excellence in end-of-life care that are laid in the preclinical years are also the foundations for excellence in general medical practice.* The areas emphasized in this report—basic science knowledge, interpersonal skills, empathy for the experience of suffering and loss, technical competence, and an understanding of the social, cultural, and institutional dimensions of health and health care—are the building blocks for excellence in all of medicine. For this reason, there should be no conflict or competition between an educational agenda that prepares students to care well for dying patients and the aims of a general medical education. Moreover, the boundaries between "basic science" and "clinical" instruction are no longer as clear as in the past. Students have earlier and more direct contact with patients and clinical problems, and more basic science teaching is being reintroduced to students in the later years of the curriculum. These trends are likely to continue as medical schools undertake fundamental reforms in the structure and content of medical education. Highlighting aspects of preclinical teaching that are especially relevant to care for the dying not only helps medical schools respond to new and urgent societal demands but also helps them achieve their core mission of preparing students to be excellent physicians of tomorrow, regardless of their future specialties.

## THE FORMAL CURRICULUM AND BASIC COMPETENCIES FOR END-OF-LIFE CARE

Several well-respected palliative care curricula[1,3,8,9] are in agreement that five domains make up the basic competencies for high-quality end-of-life care: (1) psychological, sociologic, cultural, and spiritual issues, (2) interviewing and communication skills, (3) management of common symptoms, (4) ethical issues, and (5) self-knowledge and self-reflection. List 1 shows the objectives that medical education should accomplish within each of these domains in the preclinical years. It is by no means a comprehensive or exhaustive list of end-of-life learning objectives. Rather, it points to opportunities for learning end-of-life skills that have significant but often unrealized potential in the first two years of medical school. The domains are listed in no particular order; all are equally important. In addition, the subsequent years of medical school must reinforce and enlarge on these competencies.

**List 1**

**[illegible] and the Preclinical Curriculum**
**The preclinical curriculum should enable all students to**

1. Understand the psychological, sociologic, cultural, and spiritual aspects of death and dying:
   a. suffering
   b. loss
   c. bereavement
   d. ritual and meaning at the end of life
2. Develop basic interviewing and communication skills essential to end-of-life care:
   a. how to listen to the impact of illness on life
   b. how to explore hope, hopelessness, and fear
   c. how to discuss loss and grief
   d. how to discuss spiritual concerns
3. Understand the pathophysiology and management of common symptoms at the end of life:
   a. pain
   b. shortness of breath
   c. dehydration
   d. depression
4. Identify significant points of consensus and controversy in the ethical aspects of end-of-life care:
   a. withholding/withdrawing treatment, assisted suicide, and euthanasia
   b. pain management
   c. allocation of resources and access to high-quality palliative care
   d. non-abandonment of patients
5. Improve their ability to reflect self-critically on their personal and professional experiences around death and loss:
   a. death in their personal experience
   b. views of the afterlife
   c. the goals of medicine
   d. the role of the doctor and the health care team in caring for the dying

**List 2**

| The Formal Curriculum: Teaching Settings for Competencies in End-of-life Care |
|---|
| Basic science courses (e.g., anatomy, pathophysiology, pharmacology) |
| Problem-based learning seminars |
| Courses in ethics, humanities, and the social–behavioral sciences |
| Courses in patient interviewing, doctor–patient relationship, and introduction to clinical medicine |
| Clinical preceptorships |
| Longitudinal experiences in clinical settings and in the home |

Many educational settings in the preclinical years have great potential to help students develop one or more of these competencies. List 2 shows six settings—basic science courses; problem-based learning seminars; courses in interviewing, the doctor–patient relationship, and introduction to clinical medicine; courses in ethics, humanities, and the social–behavioral sciences; clinical preceptorships; and longitudinal experiences with patients—of which all but the fifth and sixth are already ubiquitous in U.S. medical schools. The fifth and sixth are becoming more common but are not yet as well established as the others. The recommendations made here do not for the most part require the invention of entirely new settings or curriculum components. Rather, they involve making better use of the curricula that are already in place. Adding an entirely new curriculum on end-of-life care to an already overburdened schedule is unrealistic and counterproductive, and every effort must be made to integrate end-of-life issues throughout a student's experience in medical school. Accordingly, the first formal recommendation (discussed more fully later) is for a course-by-course, setting-by-setting inventory of the opportunities for significant learning in the existing preclinical curricula. This inventory will reveal end-of-life care topics that are currently being covered as well as serious gaps.

To illustrate, we now suggest how these settings may be exploited to enhance students' preparation for excellence in end-of-life care.

## Basic Science Courses

**Anatomy.** The time a student spends working with a cadaver can be the occasion for learning to work as a member of a team, stimulating self-reflection, and discussing personal reactions. Where do cadavers come from? What prompts someone to donate his or her body to a medical school? What religious and cultural values shape the decision? Does the experience of dissection convey something about the universality and inevitability of death? Does the student's privilege to cut into the human body (living or dead) express a special role for the doctor in society? What meanings and emotions accompany this experience? What rituals, defense mechanisms, or personal reflections shape students' responses? Formal or informal discussions of such issues, rituals at the end of the course for saying thank you or good-bye to the human gift represented by the cadaver, and readings in social and cultural history are some of the ways the anatomy course can be drawn explicitly into the student's preparation for end-of-life care. Conversely, when such discussions are not fostered, the indirect message being communicated is that such matters are not part of students' professional development.[10,11]

**Pathophysiology and pharmacology.** These courses can be used, with minimal impact on their existing structure or content, to address symptoms and therapies common in advanced stages of disease. Teaching about the respiratory system, for example, can be the occasion to discuss dyspnea and known methods for alleviating this distressing end-of-life symptom. Terminal dehydration and the body's diminishing needs for hydration at the end of life can be taught in physiology courses. Similarly, teaching in pharmacology can focus more on the physiology and neuropsychology of pain, as well as on the indications, dosage calculations, and routes of administration of morphine and other important analgesics, as illustrated, for example, by recently issued clinical practice guidelines.[12] Such teaching may counter students' exaggerated fears about addiction or respiratory depression (hastened death) and encourage confidence in rather than fear of treating dying patients' pain. This setting is also one in which the ethical issues related to pain control, terminal sedation, and assisted death can be addressed, rather than segregating them in formal courses on bioethics (see further comment below).

In each of these examples (and many others throughout the preclinical curriculum not mentioned here), unanswered questions and promising avenues for future research should be emphasized. The message to students must be that care at the end of life shares with curative medicine all of the intellectual challenges and professional rewards of biomedical research and innovation. This is a valuable supplement to the basic message that skill in palliative medicine is integral to clinical care and to being a good doctor.

**Problem-based learning (PBL).** PBL cases are well suited to the multidimensional and longitudinal aspects of end-of-life care: prognosis and the shift in emphasis from curative and disease-modifying therapies to palliative measures (that is, when does the physician consider someone to be "dying"?), and the value of not abandoning patients who are incurably ill. To exploit these opportunities, PBL cases need to

provide "the last chapter" of a case, with all the physical symptoms, psychological and social issues, and spiritual and ethical concerns involved in the actual care of a dying patient, rather than the more typical statement that "The patient was referred to a hospice program and died three weeks later." Students should generate learning issues and engage in small-group discussions of the clinical, scientific, and personal aspects of end-of-life care. As examples, students can confront the challenges of using high doses of opioids to control pain; how to respond when a dying patient stops eating; how (and whether) to withdraw life support when a panicked family member brings a patient in a hospice program to the emergency department and, in ignorance of the patient's previously stated wishes, the medical team intubates her. Dealing with the difficulty of predicting a patient's death contributes to students' appreciation of the ambiguity and uncertainty of medicine in general.

### Ethics, Humanities, and Social–Behavioral Sciences

Courses in ethics, the humanities, and the social–behavioral sciences can contribute to the basic competencies at three levels: content, ways of knowing, and process.

**Content.** Every death is someone's death, and every death takes place in a particular life-world, shaped by a particular world-view. Dying and bereavement are embedded in rich cultural contexts, and the meanings of suffering and death for a given patient and family (and for the doctor) will reflect those contexts. Exploring the moral, social, cultural, religious, and historical dimensions of dying is thus a crucial part of the knowledge base for effective, personalized care.[13,14]

**Ways of knowing.** The humanities, in particular, introduce students to narrative, aesthetic, and historical modes of thought and expression that complement the quantitative, "objective" biological sciences. Ethics and humanities teaching can present different forms of moral reasoning, with their implications for addressing dilemmas such as a patient's request for aid in dying.[15,16]

**Process.** The most effective ethics and humanities instruction takes place in small groups, emphasizes self-awareness and personal reflection as well as critical analysis of texts, and fosters an interplay of intellectual and emotional responses. Encounters with the humanities help prepare students for lifelong learning and personal growth, as is most appropriate to the mysteries of suffering and death. Students acquire habits of mind that will be very valuable when they assume the technically demanding and personally challenging tasks of end-of-life care.

Unfortunately, there is a tendency to isolate end-of-life instruction in bioethics or medical humanities courses. While these courses do make strong contributions, the teaching of end-of-life care should be integrated into all relevant clinical instruction rather than being segregated into bioethics and humanities units.[1]

### Interviewing Skills, the Doctor–Patient Relationship, and Introduction to Clinical Medicine

These courses provide obvious opportunities for students to learn empathic listening, attention to nonverbal communication, heightened awareness of their own emotional responses to the severely ill or dying patient, an appreciation of the significance of the doctor him or herself as a diagnostic and therapeutic instrument, and appreciation of the patient's narrative. All of these are crucial to care of dying—and all other—patients. Taking advantage of these courses for these purposes requires an explicit intention to do so, selection for interview of patients who are facing end-of-life issues, and recruitment of faculty who have interest and skills in end-of-life care. Greater use of hospices, palliative care units, and long-term care facilities as sites for teaching interviewing and basic clinical skills can reinforce these learning opportunities. These settings expose students to types of patients different from those they typically see in the hospital or outpatient clinic. These settings are also useful for exposing medical students to the contributions of many other professions (e.g., nursing, pharmacy, social work, and physical therapy) to optimal patient care. To maximize learning, students should have opportunities to interact directly with patients, followed by debriefing and feedback. Role-playing and exercises with simulated patients can also enhance communication skills in the contexts of critical illness, death, and grief.

### Preceptorships

Students need positive role models, and the clinical preceptorship is an excellent place to encounter both positive and negative role models (after all, both stimulate learning!). The decision by many schools to increase early exposure to primary care role models in order to motivate more graduates to enter primary care practice reflects this strategy. The same rationale obtains here—expose students to the rewards and satisfactions, as well as the skills, of caring for dying patients.

### Longitudinal Experiences

When students get to know a patient over time and in the patient's home environment, they have rich opportunities to learn about personal, social, cultural, and spiritual meanings of suffering, dying, and bereavement. These longitudinal experiences need not and should not, however, be labelled exclusively experiences with "death and dying." Instead, they

are a valuable part of the student's patient- and community-centered general medical education. The learning is even more valuable because the patient is identified, and functions, as the teacher. Hospice patients are an excellent resource in this context.

Structuring this kind of learning requires careful planning, suitable patients, and a group of committed and well-trained faculty to lead discussions. This is the one setting that will entail significant additional commitment by the faculty. Some patients will very likely die in the midst of the experience, and for some students this will be their first direct encounter with death. Students will need to have opportunities, individually or in small groups, to debrief and process their experiences with the patients. Background readings can enrich the patient visits.

## IMPLICATIONS OF THE "HIDDEN" CURRICULUM FOR EDUCATION

The "hidden" curriculum refers to the everyday routines, assumptions, and experiences students encounter from their very first day that communicate what the "real" priorities and values of medicine are. Three areas are especially worthy of attention because of their subtle but pervasive effects on students' attitudes and practices in end-of-life care.

**Exaggerated sense of medical power.** Teaching in the basic sciences often conveys to students an exaggerated sense of medicine's power to cure and of the certainty and exactness of scientific knowledge. Traditional textbooks devote minimal attention to the dying process or to palliation of symptoms, as compared with cure and aggressive treatment. *Implications for end-of-life care:* Physicians-in-training have unwarranted confidence in medical expertise and excessive expectations of their abilities to forestall death. They are ill prepared for ambiguity and loss, or the need to acknowledge—to their patients and to themselves—the limitations of medicine that are manifest in the deaths of patients. Seeing and discussing patients who are not going to get better, and talking with bereaved families, widen the scope of the trainees' vision and expectations.

**Skewing students' vision of what doctors do.** The emphasis on medicine's power to cure disease, with minimal attention to the symptoms of diseases or their effects on a patient's daily life, skews the student's vision of what doctors do. For example, when PBL cases ignore or gloss over the challenges of care for patients whose diseases have become incurable, they give a strong message that this care is relatively unimportant to doctors. The course in pharmacology may exaggerate fears of addiction to opioids without clearly teaching their critical role in pain management at the end of life. *Implications for end-of-life care:* Students underestimate the amount of time they will spend as practitioners palliating or ameliorating incurable conditions, and they underestimate the value that patients put on palliative care and the role of palliative care specialists.

**Biased reward systems in medicine.** The verbal and nonverbal reward systems in medicine favor technical over relationship competencies and statistical and quantitative forms of knowledge over individual and narrative ones. For example, interviewing courses may concentrate exclusively on techniques for eliciting data but ignore the process of exploring the patient's feelings or experience with being ill, as well as the physician's personal responses. Few settings encourage students to engage in self-reflection on the unusual, threatening, or mystifying perceptions and experiences they have in the world of medicine. The absence of discussion of reactions to dissection in the anatomy lab, of emotional reactions to a death on the ward, or of moral doubts gives a strong message about how "professionals" are "supposed" to handle such experiences. *Implications for end-of-life care:* The student's capacity to recognize and process the inevitable emotions that accompany care for dying patients, or to develop empathy for the experiences of patients and families, may be impaired. Students learn to devalue the narrative and subjective dimensions of their own experience, as well as those of their patients, and learn to favor stoicism and denial over the acknowledgment of threat, discomfort, or any strong emotion.

Taken together, these aspects of the hidden curriculum hinder or even prevent a student's development of empathy for the subjective experience of others; openness to his or her own emotional experience; appreciation of a doctor's non-technical or non-curative roles; ability to tolerate the uncertainty and limitations of medicine; and willingness to seek emotional support from colleagues in threatening or difficult situations. Yet each of these is an important part of a student's preparation to provide excellent end-of-life care, and, indeed, of all clinical medicine. The hidden curriculum is a necessary object of attention and concern, not only so that students can derive maximum benefit from the preclinical years in the area of care near the end of life, but—perhaps even more urgently—to prevent these years from undermining the educational effort entirely.

## MAKING CHANGE

The preclinical years of medical school can foster or undermine students' enthusiasm and competence for end-of-life care. At the same time, the specific end-of-life competencies that may be enhanced (or stunted) in the first two years are fundamental to general excellence in clinical medicine. A *curriculum that optimally prepares students to give excellent care near the end of life will best prepare them to become excellent physicians in all aspects of medical care.*

Specific and concrete actions can help move medical education in the directions suggested above.

**The basic recommendation is that every medical school establish an effective and reliable mechanism to assess the preclinical curriculum and promote changes necessary to optimize its contribution to education for end-of-life care.** Moving from this broad recommendation to an effective strategy for change will involve several tasks, the specifics of which may well vary across institutions. These tasks will be likely to require establishing a specific center of responsibility (e.g., a subcommittee of the curriculum committee) to encourage and oversee the changes. This group would not necessarily undertake the specific tasks itself, but it should promote, guide, and monitor action on each task. The essential tasks are:

1. Carry out a detailed analysis of the existing medical curriculum—in all four years—to inventory actual learning opportunities and gaps related to the basic competencies for end-of-life care identified in this report, in other reports from the National Consensus Conference, and in published palliative care curricula (for example, references 1, 3, 8, and 9).
2. Meet with individual course directors and instructors to reinforce what is being taught well and decide how to fill the significant gaps.
3. Create a liaison between the curriculum committee and the faculty at large on curricular matters affecting students' acquisition of knowledge, skills, and attitudes for care near the end of life.
4. Determine the *real costs* of end-of-life education and help identify revenue sources and resources for faculty development to enhance the educational potential of current teaching settings.
5. Coordinate faculty development activities across the institution to enhance teaching related to end-of-life care.
6. Inform the curriculum committee of trends and state-of-the-art practices in end-of-life education and suggest ways to adapt these practices to local conditions.
7. Recommend ways to monitor individual students' exposure to critical learning experiences related to end-of-life care (and implementation of end-of-life teaching), and suggest ways to remedy omissions or missed opportunities before graduation.
8. Prepare an "environmental impact statement" for the associate dean for medical education, examining at regular intervals the impact of the hidden curriculum on students' knowledge, skills, and attitudes regarding end-of-life care.

Ideally, the group charged with these tasks would be made up of faculty with strong interests and expertise in end-of-life care and education, and would include a cross-section of physicians and other health professionals. It would serve as a focal point for internal advocates for high-quality end-of-life care and education within each institution. It would respond to national trends and standards and incorporate them as appropriate in light of local conditions.

## CONCLUSION

The preclinical years of medical education have rich potential for preparing medical students to provide optimal care to patients near the end of life, as well as to patients in general. Most of the opportunities and settings for this education already exist in the curricula of most medical schools, although they are currently underutilized for this purpose. In this report, we identify the most promising settings and suggest how they might be used for maximum benefit in end-of-life education. A centralized group should oversee educational activities related to end-of-life care at each medical school. This group would identify and facilitate teaching opportunities for the entire curriculum, relate individual schools' efforts to broader national trends and state-of-the-art educational practices, and continually assess the impact of the hidden curriculum.

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